

# REGIONAL DISTRICT OF NANAIMO

## Water Service Area Annual Report 2020



### Englishman River (Rivers Edge) Water Service Area

June 2021

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Appendix A - Map of Englishman River Water Service Area

Appendix B - Water Quality Testing Results

Appendix C - Emergency Response Plan

## 1.0 Introduction

The following annual report describes the Englishman River Community Water Service Area (also known as Rivers Edge) and summarizes the water quality and production data from 2020. This report also includes a summary of inquiries and complaints, completed and proposed maintenance activities, Operator Certification, the Emergency Response Plan, and the Cross Connection Control Program.

This report is to be submitted to Island Health by the spring of 2021.

## 2.0 Englishman River Water Service Area

The Englishman River Community Water Service Area was established in 2003 and is comprised of the Rivers Edge residential subdivision near the southern boundary of the City of Parksville. The water source for the Englishman River Community Water Service Area comes from a series of groundwater wells located nearby. The water source is chlorinated and stored in one reservoir. There are 152 water service connections in the Englishman River Water Service Area. A generator is available for emergency power outages. A map of the Englishman River Water Service Area is provided in Appendix A for reference.

### 2.1 Groundwater Wells

Groundwater production wells ER #2 and ER #3 are located at 2231 Rascal Lane, Parksville, B.C. Test well PW #1 is located on Peterson Road, and was converted to a monitoring well in 2005. Test Well PW #4 is located on Rivers Edge Drive and was converted to a provincial monitoring well in 2012.

Well / Name	Well Depth	In Use	Wellhead Protection	Treated/Untreated with Chlorine
ER #2	29.3 m	Yes	Yes	Treated
ER #3	32.6 m	Yes	Yes	Treated

### 2.2 Reservoirs

One dual-chambered concrete service reservoir is present at 890 Stonefly Close and has a capacity of 795 m<sup>3</sup> (175,000 imperial gallons).

### 2.3 Distribution System

The water distribution system is summarized in the table below. Fire hydrants (24) are located throughout the system.

Watermain Material	Length of mains in service area	Prevalence in Water Service Area
Asbestos-concrete	none	n/a
PVC: 150mm or smaller	3.6 km	28.8%
200mm or larger	8.9 km	71.2%

Note: 'PVC' is poly-vinylchloride (plastic)

### 3.0 Water Sampling and Testing Program

Water sampling and testing is carried out weekly in the distribution system. Notably, the chlorine residual levels are tested weekly to ensure the absence of bacterial regrowth in the watermains. The following table includes a summary of all testing:

Timing	Location	Tests
Weekly	RDN (in-house) Laboratory	Total coliforms, E.Coli, Temperature, pH, Conductivity, Chlorine residual, Salinity, TDS, Monthly- Iron and Manganese
Semi-Monthly	BC Centre for Disease Control	Total coliforms, E.Coli
Annual Source Water Testing (every Fall)	Bureau Veritas	Complete potability testing of raw well water (including T-Ammonia in 2012)
Annual Water System Testing (every Spring)	Bureau Veritas	Complete potability testing of distribution system (including T-Ammonia in 2012)

### 4.0 Water Quality - Source Water and Distribution System

Up-to-date water quality reports and lab data are posted monthly on the RDN website at [www.rdn.bc.ca/englishman-river](http://www.rdn.bc.ca/englishman-river). Tables of water quality testing results for both the source water and distribution system are provided at the end of this report under Appendix B.

### 5.0 Water Quality Inquiries and Complaints

A few complaints and inquiries were received from the Englishman River Water Service Area in 2020, and were typically related to irrigation leaks, iron and manganese discolouration, and high water bills.

**Water Sampling Station in Rivers Edge**

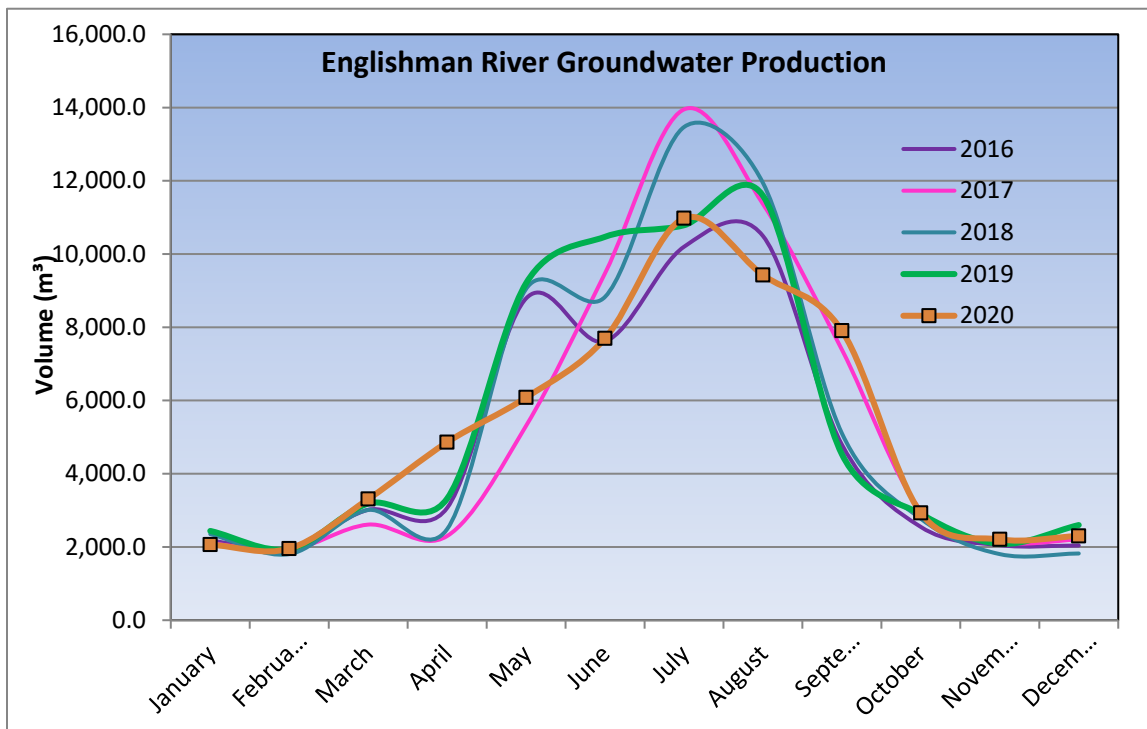


A summary of the water system incidents in 2020 is given in the table below.

Activity in 2020	Date(s)	History/Notes
Boil Water Advisories	None	None, ever.
High Turbidity Events	None	None, ever.
Equipment Malfunction	None	None.
Water Main Breaks	None	None.
Pump Failures	None	Temp power outages.

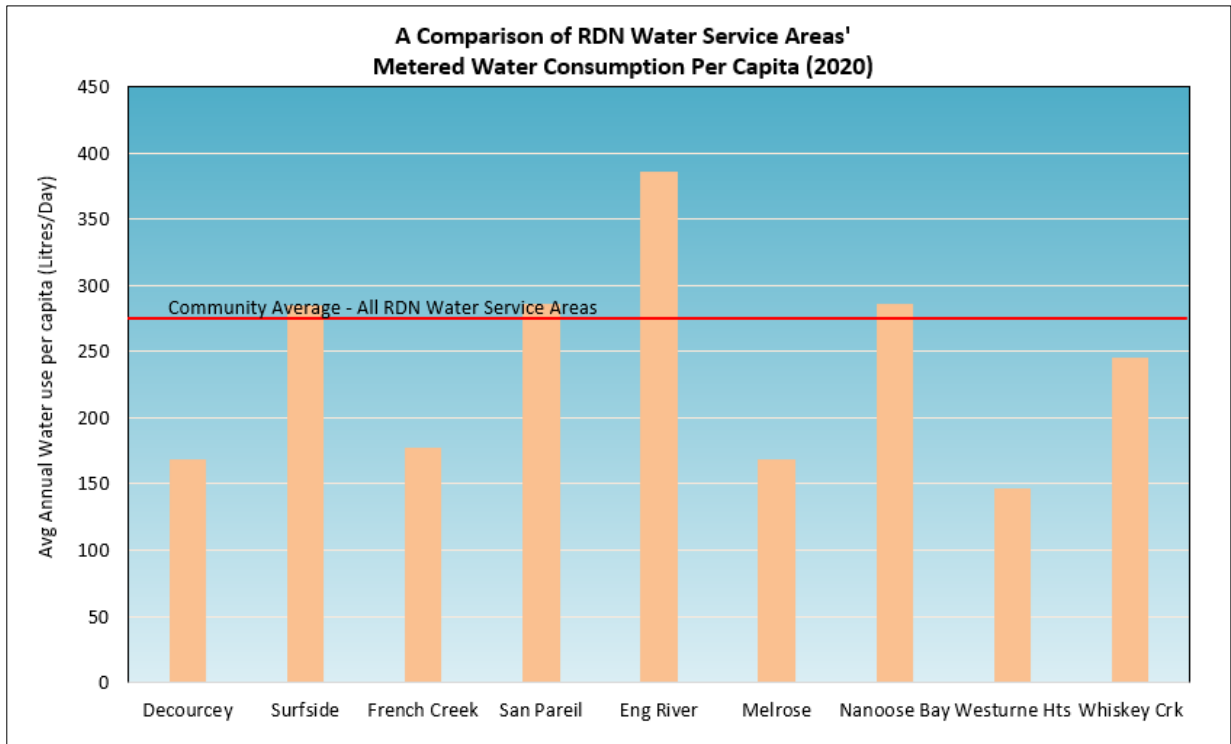
### 6.0 Groundwater Production and Consumption

Monthly groundwater production in the Englishman River Water Service Area for the past 5 years is shown in the chart below. Water production in 2020 was below average in comparison to the previous years.



Consumption

In the Fall/Winter of 2020, the average usage per home in the Englishman River Water Service Area was 0.61 cubic metres per day (134.2 imperial gallons). In the summer, the average water usage was 1.56 cubic metres per day (343.2 imperial gallons). Based on these figures, the annual consumption per capita is estimated to be 386 L/day (based on 2.4 people per household). This consumption is **39% higher** than the average of all the other RDN water systems of 278 L/day/capita for 2020.



**7.0 Maintenance Program**

A weekly pump station inspection is carried out to reduce or eliminate the risk of contamination and system failure, and to ensure the consistent application of chlorine for treatment purposes. Watermains are flushed once annually in the spring. Fire hydrants are serviced once per year (either 'A-level' or 'B-level' maintenance). The water storage reservoir is drained and cleaned as required, every 4-5 years. Twenty-four hour on-call coverage is in place to respond to water system emergencies and alarms.



## 8.0 Operator Certification

The Regional District Water & Utility Services staff is comprised of one Manager, one Project Engineer, one Engineering Technologist, one Engineering Technician, one Chief Operator, and seven certified operators. The operators receive ongoing training and certification in:

- |                            |   |                            |
|----------------------------|---|----------------------------|
| ✓ Water Treatment          | ✓ Chlorine Handling                                       | ✓ Confined Space Awareness |
| ✓ Water Distribution       | ✓ WHMIS (Workplace Hazardous Material Information System) | ✓ Traffic Control          |
| ✓ Wastewater Collection    | ✓ TDG (Transportation of Dangerous Goods)                 | ✓ Fall Protection          |
| ✓ Cross Connection Control |   | ✓ First Aid                |
| ✓ Asbestos Awareness       |   | ✓ Silica Awareness         |

## 9.0 Water Service Area Projects

### 9.1 2020 Completed Studies & Projects

- Carried out a PW1 Pump Test and associated report;
- Updated asset database with new assets;
- Calibrated and serviced all Hach spectrophotometer lab equipment;
- Completed a Water System Condition Assessment report and Capital Plan;
- Corresponded with residents regarding water conservation;
- Completed regular watermain flushing, and hydrant maintenance;
- Continued quality control through regular testing and monitoring of water systems;
- Completed irrigation checks for high-water users;
- Advised residents regarding water leak repairs;
- Completed the 2020-2030 Water Conservation Plan;
- Implemented a Water Systems SCADA Master Plan;
- Enforced outdoor sprinkling regulations; and
- Maintained a high level of water quality.

Rascal Lane Well Site  
(ER #2 and ER #3)



## 9.2 2021 Proposed Projects & Upgrades

- Perform a Groundwater Source Study;
- Continue watermain flushing program and hydrant maintenance;
- Continue implementing the Water Systems SCADA Master Plan;
- Implement the 2020-2030 DWWP Water Conservation Plan; and
- Continue to offer numerous water-saving incentives via rebates.

## 10.0 Emergency Response Plan

The Regional District Emergency Response Plan (ERP) contains procedures and contact information to efficiently respond to water system emergencies such as contamination of water supply, loss of supply, pump failure, and drought management. The ERP was reviewed and updated in 2020, and copies are available on our website, at each RDN office, in each pumphouse, and in each Water Services vehicle. A copy of the ERP is also attached to this report in Appendix C.

## 11.0 Cross Connection Control

The RDN’s Cross Connection Control Program was put in place to protect the public health by reducing the risk of contaminants flowing back into the public water supply. The RDN Manager of Water Services is the designated Cross Connection Control Manager.

The RDN's Cross Connection Control Program addresses cross connection threats through operating policies and procedures, as well as assisting customers with backflow preventer selection, installation, testing, maintenance and reporting. The program receives its authority from *RDN Cross Connection Control Regulation Bylaw No. 1788*, and the *British Columbia Building Code, Part 7*, which requires that potable water be protected from contamination. Additionally, a webpage has been established at <https://rdn.bc.ca/cross-connection-control-program> to educate RDN water service customers about cross connection hazards, and lists the relevant links to current standards and resources.

Two of the RDN’s water system operators received certification as backflow assembly testers through the British Columbia Water & Waste Association (BCWWA).

Water conservation sign for River’s Edge Subdivision





## 12.0 Cyber Security

The RDN uses a multi-level approach to cyber-security. Corporate network security is employed via a universal threat management gateway that implements various methods of data security, which includes daily definition updates to block known cyber threats. In addition, all RDN PC's are protected with anti-virus software. RDN water systems are connected to the corporate network via IP-Sec VPN's for remote management by information technology and equipment operators. Future infrastructure upgrades will see our water systems located on segregated networks to limit the vulnerability from cybersecurity threats.

## 13.0 Closing

An annual report for the year 2021 will be prepared and submitted to Island Health in the spring of 2022. Annual reports are also available on our website at: [www.rdn.bc.ca/englishman-river](http://www.rdn.bc.ca/englishman-river).